Dakota State University

Response to JCA Questions

1. How is the university responding and/or adapting to changing high-demand credentials/jobs?

New Academic Program Offerings

Adding and enhancing programs relevant to high-demand jobs with certificates and degree programs at the associate, bachelor, masters and doctoral levels. All new certificates, associate degrees and bachelor's degrees stack together.

- Certificates: Cybersecurity, Network Services, Software Development, Data Analysis
- Associate degrees: Software Development
- Bachelor degrees: Cyber Leadership and Intelligence; specializations in Artificial Intelligence and Machine Learning
- Master's degrees: Cyber Defense; Security Policy and Management; MBA emphasis areas in Management, Healthcare Informatics, Analytics, Supply Chain Management; Security and Intelligence Analytics
- Doctoral degrees: Cyber Defense; Computer Science
- Graduate & Professional Certificates: Healthcare Data Analysis; Supply Chain Management; Cyber Education

Workforce Development Programs & Partnerships

- SDPaSS (SD Partnership for Student Success)– partnership with DSU, Southeast Tech, Sioux Falls School District and the State Department of Labor and Regulation: the program offers multiple pathways with on-and off-ramps to educational opportunities including internships, registered apprenticeships, certificates, associate degrees and bachelor's degrees. Initial implementation addresses opportunities in cybersecurity, network services and software development.
- Developing new and renewed articulation agreements for computer and cyber sciences degree programs with NSA, Southeast Tech, Lake Area Tech, Mitchell Tech and the Army University
- Reduced tuition rate for active military
- Developing relationship with the U.S. Army Reserve Public-Private Partnership (P3)

Continuing and New Pipeline Development Programs

- NSA/NSF sponsored GenCyber summer camps for middle and high school students and teachers
- DOE/NSA sponsored development of K-12 cybersecurity curricula and related teacher continuing education
- Teacher STEAM (Science, Technology, Engineering, Arts and Math) camps
- K-12 IT personnel professional development programs
- Participation in Harrisburg School District Early College Program

Research and Development-Driven Economic Development

- Development of research/development clusters will facilitate regional economic development and maturation of the workforce
- Madison Cyber Labs (MadLabs) facility will be a first-class facility, unlike any in this region, to attract and retain talent and partnerships and establish South Dakota as a nationally-recognized hub for expertise, R&D, service and innovation related to the evolving cyber environment. These capabilities will address key sectors including national defense, financial services, healthcare, agriculture and day-to-day ethical, social, behavioral and economic issues resulting from the evolution and adoption of new technological advances.

2. What is the biggest challenge(s) the university is facing in the next 1, 3, 5 years? What can be done to address the identified challenge(s)?

Recruitment and Retention of Talent

- For faculty and staff recruitment and retention we need competitive salaries, especially in high-demand disciplines
- For students we need additional scholarship funds – both need-based and merit-based – to attract the students necessary to be competitive with other top schools

Insufficient or Aging Facilities

- Need additional residential facilities for growing on-campus student body – currently at 94 percent of capacity
- Need upgraded and expanded facilities for athletics
- Will explore public-private partnerships to meet the above-mentioned facilities needs

Maintaining Cutting-Edge Technology Environment

- DSU's mission-focus on computing, information technologies and systems, and cybersecurity, along with our growing national recognition, requires us to provide our faculty, students and partners with exposure and access to current and emerging technologies.
- The Madison Cyber Labs will also drive DSU's needs for increasingly advanced cyber-infrastructure, especially for data-intensive computing and communications.
- Upgrading the current 10G network segment that runs from Fargo, ND to Bellevue, NE to 100G will support the high data-intensive performance needs to support healthcare, security and intelligence analytics across the region, will enable continuation of existing reciprocity relationships with adjacent state high-performance (Internet 2) networks, and ensure that SD academic institutions and their research partners can continue to compete for certain federal funding programs.
- Creation of DMZ research network on the DSU campus that will connect to the 10/100G network, independent of other networks connecting to or on campus, will ensure the integrity of the data that it carries and enhance our potential for partnerships and funding opportunities.